

John Womersley

William John Womersley
MS357, Fermilab, P.O. Box 500, Batavia, IL 60510, U.S.A.
(630) 840-4618, Fax (630) 840-8481
womersley@fnal.gov

Education

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| Corpus Christi College, Cambridge | 1983 | B.A. (Hons) 1 st Class, Natural Sciences |
| | 1987 | M.A., Natural Sciences |
| Corpus Christi College, Oxford | 1987 | D.Phil. Experimental High Energy Physics |

Experience

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| Oxford University | 1983-86 | European Muon Collaboration experiment, CERN |
| University of Florida | 1986-89 | Research Associate, E733 and DØ experiments |
| Florida State University | 1989-92 | Assistant Professor of Physics |
| SSC Laboratory | 1992-94 | Scientist II, DØ and GEM experiments |
| Fermilab | since 1994 | Associate Scientist (1994), Scientist I (1996), Scientist II (2000); DØ and CMS experiments |

Fellow of the American Physical Society, since 2002

Executive Committee of the Division of Particles and Fields of the American Physical Society, since 2002.

Achievements

- **Co-spokesperson of the DØ experiment** since 1999. DØ is a roughly 600-person collaboration of 73 institutions from 18 nations. During this time DØ completed analysis of Tevatron Run I and made the data publicly available through a web interface. The Run II detector was completed, installed, commissioned with beam, and physics analysis started. First papers were published. The detector upgrade for Run IIb was approved, baselined by DOE, descope, rebaselined, and construction begun.
- **Physics:** lead author and analyzer of DØ photon cross section measurement and DØ gauge-mediated supersymmetry search. Leader of DØ direct photon group. Author of several phenomenology papers in collaboration with members of the Fermilab theory group. Physics Coordinator of the GEM experiment at the SSC, US Physics Coordinator for CMS 1996-99. As DØ spokesperson, coordinated analysis and publications, including placing the first experimental HEP paper in Nature for over 70 years.
- **Detector:** member of the DØ liquid argon calorimeter team 1986-91, with responsibilities for test beam analysis, calorimeter simulation and electrical testing at the module factory.
- Managed **large scale software development** in C++ for Run II of DØ, 1997-99. Have advocated use of **remote computing** and grid development in DØ. Originated and planned CMS regional computing center at Fermilab.
- Member of Fermilab **Long Range Planning Committee**, leader of the LHC subcommittee, developing and promoting an LHC Physics Center at Fermilab.
- Member of HEPAP **Quantum Universe Committee**
- **Graduate students** who have achieved Ph.D. degrees with my guidance: S. Fahey and S. Jerger (Michigan State), B. Lauer (Iowa State), W. Chen (Stony Brook). I served on the thesis committee for M. Ridet (Orsay, Ph.D. 2002), F. Deliot (Paris, Ph.D. 2002), F. Beaudette (Orsay, Ph.D. 2003) and Sebastien Greder (Strasbourg, Ph.D. 2004). I have taught at numerous **summer schools**. I taught an **undergraduate first-year physics/astronomy class** for two and a half years at Florida State.

Publications

- 154 articles published in refereed journals. The full list is available on my web page.
- 121 additional reports and conference presentations listed in the SPIRES database

Some Selected Publications of Interest:

- Measurement of the Ratios of Deep Inelastic Muon-Nucleus Cross Sections on Various Nuclei Compared to Deuterium, EMC Collaboration, Phys. Lett. B202 603 (1988).
- Observation of the Top Quark, DØ Collaboration, Phys. Rev. Lett. 74 2632 (1995)
- Search for diphoton events with large missing transverse energy in $\bar{p}p$ collisions at $\sqrt{s} = 1.8$ TeV, DØ Collaboration, Phys. Rev. Lett. 78 2070 (1997).
- Finding Low Scale Technicolor at Hadron Colliders, E. Eichten, K. Lane and J. Womersley, Phys. Lett. B405 305 (1997)
- Tests of Perturbative QCD and Jet Physics., J. Womersley, Int. J. Mod. Phys. A15S1, 607-631 (2000)
- Search for the standard model Higgs boson with $M_H \approx 170$ GeV/ c^2 in the $W^+ W^-$ decay mode, D. Green et al., J. Phys. G26 1751 (2000).
- A quasi model independent search for new physics at large transverse momentum, DØ Collaboration, Phys. Rev. D64 012004 (2001).
- Search for new physics using QUAERO: A General interface to DØ event data. DØ Collaboration, Phys. Rev. Lett. 87 231801 (2001).
- A Precision Measurement of the Mass of the Top Quark, DØ Collaboration (V. M. Abazov et al.), Nature **429** (2004) 638.

Recent Presentations

Recent Conferences

- "Tests of Perturbative QCD and Jet Physics," XIX Lepton-Photon Symposium, Stanford, August 1999 Int.J.Mod.Phys.A15S1:607-631,2000, (hep-ex/9912009)
- "Physics Beyond the Standard Model," UK Phenomenology workshop, Durham, September 1999 J.Phys.G26:505-512,2000. (hep-ex/0001039)
- "QCD at the Tevatron: Status and Prospects", 5th International Symposium on Radiative Corrections, Carmel, CA, September 2000 (hep-ex/0012061)
- "Operation and Physics Potential of Tevatron Run 2," at the III International Symposium on LHC Physics and Detectors, Chia, Sardinia, October 2001 (Eur. Phys. J. direct C4S1:12,2002).
- "Higgs Searches at the Tevatron and LHC," at the Weak Interactions and Neutrinos Workshop (WIN02), University of Canterbury, New Zealand, January 2002.
- Conference Summary and Highlights, 14th Topical Workshop on Hadron Collider Physics (HCP2002), Karlsruhe, Germany, September 2002 (hep-ex/0211009)
- "Tevatron Collider Physics," at the Annual UK Theory Meeting, Durham, December 2002
- "Future Accelerators?" at the 8th Conference on the Intersections of Particle and Nuclear Physics (CIPANP), New York, May 2003. (hep-ex/0308028)

Recent Colloquia

- Lancaster University (England), September 2000
- University of North Carolina, January 2001
- University of Illinois at Chicago, April 2001
- ETH and University of Zurich, Switzerland, October 2001
- Louisiana Tech and LSU Shreveport, February 2003
- Kansas State University, March 2003
- Columbia University, September 2003
- University of Michigan, September 2003
- University of Iowa, October 2003

- Speaking tour of South America, October 2003; presentations at Simon Bolivar University and IVIC (Venezuelan Center for Scientific Investigation), Caracas; Colciencias, Universidad de los Andes, and National University, Bogota; Universidad de Antioquia, Medellin; Universidad de Valle, Cali, Colombia; CONCYTEC, San Marcos University (UNMSM), and National Engineering University (UNI), Lima, Peru.
- State University of New York at Buffalo, November 2003
- University of Washington, January 2004
- University of California, Santa Cruz, June 2004
- University of Kansas, October 2004

Recent Seminars

- CERN EP seminar, March 1999
- Fermilab Joint Experimental/Theoretical seminar, January 2000
- Argonne National Laboratory, February 2000
- Boston University, May 2000
- Manchester University (England), September 2000
- University of Illinois, November 2000
- CBPF, Rio de Janeiro, January 2001
- Caltech, March 2001
- Mexican Physical Society, Division of Particles and Fields, Mexico City, June 2001
- “EW symmetry breaking at the Tevatron, the LHC and the Linear Collider,” Fermilab Joint Experimental/Theoretical seminar, March 2002
- SLAC Experimental Seminar, October 2002
- Fermilab Joint Experimental/Theoretical seminar, January 2003
- University of Kansas, March 2003
- Symposium in honor of Terry Sloan, Lancaster, April 2003
- Boston University HEP seminar, December 2003
- KEK HEP seminar, June 2004

Summer Schools and Student Lectures

- “QCD with Colliders,” lectures at the PSI summer school, Zuz, Switzerland, August 2000
- “Collider Physics,” lectures at the Swieca Summer School, Brazil, January 2001
- “Direct Photons,” CTEQ Summer School, Madison, WI, June 2002
- “Tevatron Physics,” lectures at the TASI Summer School, Boulder, CO, June 2002 (hep-ex/0301007)
- “Collider Detectors and Collider Physics,” Fermilab summer student lecture, July 2003
- “Common mistakes you won't make when you give a talk,” as part of a session for students on physics, job interview and outreach presentations, DØ Collaboration Meeting, February 2004

Panels and Reviews

- “The Physics Case for a Linear Collider,” Panel Discussion with David Gross and Ed Witten, Snowmass 2001
- “Tevatron Upgrades,” presentation to the HEPAP subpanel, Fermilab, June 2001
- Presentation on DØ status, DOE Program review of Fermilab, March 2002
- Presentation on DØ status and upgrades, HEPAP, April 2002
- “The Run IIb Physics Program,” P5 Subpanel meeting, Fermilab, March 2003
- Presentation to DOE Review of Fermilab accelerator plan, June 2003
- “Vision for the LHC at Fermilab,” Long-Range Planning Open Meeting, Fermilab, September 2003
- Presentation on DØ status, DOE Program review of Fermilab, April 2004
- Presentation on Run II to Dr. Jack Marburger, Assistant to the President for Science and Technology, April 2004

Committees and Reviews

- DOE Program Review of SLAC, April 2000, Program Review of LBNL, May 2003 and February 2004
- NSF Review Panel for Accelerator Based Proposals, November 2000
- Director's Review of the Fermilab Theory Group, December 2000
- Chair, Fermilab Computer Security Review committee, February 2001, April 2003
- Fermilab Director's Scientific Advisory Group, since 2001
- TASI Scientific Advisory Committee, since 2002
- Fermilab Director's Long Range Planning Committee, 2003 – 2004
- HEPAP Quantum Universe Committee, 2003 – 2004
- Universities Research Association Search Committee for Fermilab Director, 2004

Organizing Committees

- Hadron Collider Physics, Karlsruhe, 2002
- APS/DPF Spring Meeting, Philadelphia, 2003
- Lepton-Photon Symposium, Fermilab, 2003
- APS Spring Meeting, Denver, 2004

Outreach and media activities

- CLTV “Front and Center” (TV call-in show) 1995
- WGN radio “Extension 720” with Milt Rosenberg (radio call-in show) 2002;
- “What’s next in the search for the Higgs?”, SLAC Beam Line magazine, Winter 2001;
- “The Uncommon Language of Science”, Ferminews, May 10, 2002;
- “Looking Forward to Physics at Tevatron Run II,” CERN Courier, January 2003
- Numerous newspaper interviews on the issue of scientific visas, 2002-4 (Wall Street Journal, Hartford Courant, Chicago Tribune, APS News, Times Higher Education Supplement, Physics World...)
- “International Interactions at Fermilab” (with James Gillies), CERN Courier, November 2003
- “Run II – it’s time to move on, together,” Ferminews, October 2003
- “Do You Feel Welcome in the United States?” Ferminews, February 2004

File updated October 2004